

REMARKS

This amendment is in response to the Office Action mailed February 4, 2009. Claims 1, 4, 10, and 17 have been amended, claim 2 is canceled without prejudice. Claims 1, 4-10, and 12-34 are presently pending. No new matter has been added.

Claims Objections

Claims 1-15, and 26 were objected to because of the following informalities. Claim 1 was objected to as being unclear where the preamble ends and the body of the claim begins. Claim 1 was also objected to because the terms “the lumen” and “the catheter” allegedly lack antecedent basis. Claim 2 was objected to as allegedly unclear regarding whether the term “is” is inclusive or exclusive as the term “formed into a coil shape” seems to be directed to a method of making the device rather than the device itself. Claims 9 and 26 were rejected as allegedly unclear regarding what additional structural limitation has been set forth.

Claim 1 has been amended to address the objections and provide antecedent basis for the terms of the claim.

Claim 2 has been canceled.

Claims 9 and 26 both recite that the sensor/sensor coil is adapted to communicate with a medical positioning system. Accordingly, these claims require that the sensor/sensor coil have a structure that permits communication with a medical positioning system.

The Applicants respectfully request withdrawal of the objections to these claims.

§103 Rejections

Claims 1, 2, 4-10, 12-27 and 29-34 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 6,309,370 B1 to Ben-Haim et al. (“Ben-Haim”) in view of US Patent No. 5,947,905 to Hadjicostis et al. (“Hadjicostis”). Claim 28 was rejected under 35 U.S.C. 103(a) as

being unpatentable over Ben-Haim et al in view of Hadjicostis et al and in further view of U.S. Patent No. 4,917,097 to Proudian et al. ("Proudian). The Applicants traverse these rejections.

Claim 1 recites a sensor coupled to an imaging device within a lumen and positioned proximal to the imaging device, wherein the sensor comprises a conductive coil; a solid core around which the conductive coil is wrapped; a solid, non-conductive material disposed over the sensor; and one or more traces formed over the sensor and disposed in the solid, non-conductive material. Claim 16 recites a sensor coil disposed distal to a drive shaft coil; a non-conductive layer of epoxy surrounding the sensor coil; an imaging device, having first and second terminals, disposed distal to the sensor coil; and first and second traces residing in the non-conductive layer of epoxy. Claim 27 recites a sensor coupled to an imaging device within a lumen of a catheter and located proximal to the imaging device; a non-conductive material surrounding the sensor; and one or more conductive traces formed within the non-conductive material.

Each of the claims recite a sensor or sensor coil with a non-conductive material or layer disposed over or surrounding the sensor/sensor coil and conductive traces formed in the non-conductive material/layer. Neither Ben-Haim nor Hadjicostis discloses such an arrangement. Moreover, the Office Action fails to identify the recited non-conductive material/layer despite the rejection of claims 16 and 26 which recite these elements and which have not been amended. Accordingly, the present Office Action fails to establish a *prima facie* case for obviousness. A proper *prima facie* case of obviousness must address every element of each of the claims.

None of the cited references teach or suggest a sensor or sensor coil with a non-conductive material or layer disposed over or surrounding the sensor/sensor coil and conductive traces formed in the non-conductive material/layer. For at least these reasons, claims 1, 16, and 27, as well as the remainder of the claims which depend therefrom, are patentable over the cited references. The Applicants respectfully request withdrawal of the rejections of these claims.

In addition, claim 1 recites that the sensor comprises a conductive coil and that the recited imaging apparatus further includes a solid core around which the conductive coil is wrapped.

Claims 17 recites an inner core around which is wrapped the sensor coil. Claim 32 recites that the sensor includes a conductive wire wrapped around a solid magnetic core. None of the cited references teach or suggest these claim elements. For at least these additional reasons, claims 1, 17, and 32, as well as claims 4-10, 12-15, 18, and 19 which depend therefrom, are patentable over the cited references. The Applicants respectfully request withdrawal of the rejections of these claims.

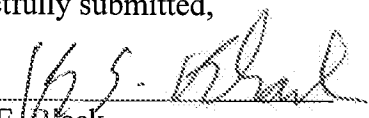
Claim 16 recites that the sensor coil is distal to the drive shaft coil. The Office Action fails to identify a drive shaft coil and, therefore, fails to establish a *prima facie* case of obviousness for claim 16. Moreover, neither of the cited references teach or suggest the specific spatial relationship between the sensor coil and the drive shaft coil recited in claim 16. For at least these additional reasons, claim 16, as well as claims 17-26 which depend therefrom, are patentable over the cited references. The Applicants respectfully request withdrawal of the rejections of these claims.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue. If the Examiner has any questions or concerns, the Applicants encourage the Examiner to contact the Applicants' representative, Bruce Black, by telephone to discuss the matter.

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Respectfully submitted,

By


Bruce E. Black

Registration No.: 41,622
DARBY & DARBY P.C.
P.O. Box 770
Church Street Station
New York, New York 10008-0770
(206) 262-8908
(212) 527-7701 (Fax)
Attorneys/Agents For Applicant